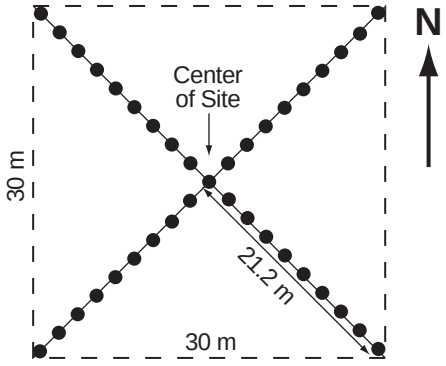
Canopy Cover and Ground Cover
Field Guide

Task

Take ground and canopy cover measurements while pacing half-diagonals to determine the MUC class of your Land Cover Sample Sites.

What You Need

- ❑ Tubular densiometer
- ❑ *Canopy and Ground Cover Data Sheet*
- ❑ Pen or pencil
- ❑ Compass
- ❑ Species ID keys and/or other local species guides
- ❑ Clipboard



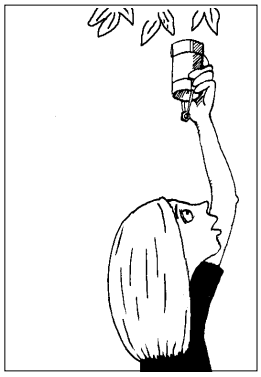
The central 30 m x 30 m area of a Land Cover Sample Site with the four 21.2 m half-diagonals (in the NE, SE, SW and NW directions) for sampling.

In the Field

1. Locate the center of your homogeneous Land Cover Sample Site. This is your starting point.
2. Choose a direction in which to walk: NE, NW, SE, or SW. Use a compass for bearing.
3. Look up through your densiometer. Be sure the metal nut or washer is directly below the crosshairs at the top of the tube. In column 1 of the *Canopy and Ground Cover Data Sheet* record:
   "-" if you see sky above the crosshairs

   "T" if you see leaves, twigs, or branches at the crosshairs and they are attached to a tree (greater than 5 meters tall)

   "SB" if you see leaves, twigs or branches at the crosshairs and they are attached to a shrub (a woody plant between 50 cm and 5 meters tall)



4. In column 2 of the *Canopy and Ground Cover Data Sheet* record:

   "-" if you see sky above the crosshairs

   "E" if the tree or shrub you see is evergreen

   "D" if the tree or shrub you see is deciduous

5. Stand with your feet shoulder-width apart. Look down and observe any vegetation that is touching your feet or legs below the knee. In column 3 of the *Canopy and Ground Cover Data Sheet* record:

   "-" if there is no vegetation

   "B" if there is brown vegetation (still attached to the ground)

   "G" if there is green vegetation and in column 4 identify the type of green vegetation

6. In column 5 of the *Canopy and Ground Cover Data Sheet* record the species name or common name of the tallest tree or shrub you have observed at this spot.

7. In column 6 of the *Canopy and Ground Cover Data Sheet* record:

   "+" if the tallest vegetation is a shrub

   "-" if the tallest vegetation is not a shrub

8. In column 7 of the *Canopy and Ground Cover Data Sheet* record:

   "+"if the tallest vegetation is a dwarf shrub

   "-" if the tallest vegetation is not a dwarf shrub

9. Take a pace (two steps) in the direction you are going. Repeat steps 3 to 8. Stop when you have gone 21.2 meters and reached the corner of your sample area.

10. Repeat steps 2 to 9 for another direction until all four are measured or share your data with other students who have paced the other diagonals of your sample area.

11. Complete the tables at the bottom of page 2 of the *Canopy and Ground Cover Data Sheet* using the total data collected from all four diagonals. Calculate the percentages indicated.

12. Use these data to help determine or confirm your choice of a MUC classification and to determine dominant and co-dominant species for your site. Report these data to GLOBE.

Determining the percentage tree canopy cover:

$$\% \text{ Tree Cover} = \frac{\text{Total "T" Canopy Observations}}{\text{Total Observations}} \times 100$$

Determining the percentage evergreen canopy cover:

$$\% \text{ Evergreen Cover} = \frac{\text{Total "E" Canopy Type Observations}}{\text{Total Observations}} \times 100$$

Determining the percentage deciduous canopy cover:

$$\% \text{ Deciduous Cover} = \frac{\text{Total "D" Canopy Type Observations}}{\text{Total Observations}} \times 100$$

Determining the percentage graminoid canopy cover:

$$\% \text{ Graminoid Cover} = \frac{\text{Total "GD" Ground Vegetation Type Observations}}{\text{Total Observations}} \times 100$$

Determining the percentage shrub canopy cover is more complicated. If shrubs occur under trees, the canopy cover is tree not shrub.

$$\% \text{ Shrub Cover} = \frac{\text{Total Observations where Shrubs are the tallest vegetation}}{\text{Total Observations}} \times 100$$

Determining the percentage dwarf shrub canopy cover is also more complicated. If dwarf shrubs occur under trees or shrubs, the canopy cover is tree or shrub and not dwarf shrub.

$$\% \text{ Dwarf Shrub Cover} = \frac{\text{Total Observations where Dwarf Shrubs are the tallest vegetation}}{\text{Total Observations}} \times 100$$